



## LESSON PLAN

### Season 2/Episode 13

#### *Marble Race Experiment* (Investigating 'Liquids')

Let's Find Out features Captain Zoom and her crew of scientists with exciting experiments, curious kids and a trip to a faraway place. Produced with support from Science Foundation Ireland.

**Class Level:** First/Second Class  
**Strand:** Energy and Forces  
**Strand Unit:** Forces  
**Content Objective:** • Observe and investigate the movement of objects such as toys on various materials and surfaces

**Class Level:** Third/Fourth Class  
**Strand:** Energy and Forces  
**Strand Unit:** Forces  
**Content Objective:** • Investigate falling objects

**Assessment Method(s):**

- Teacher observation
- Teacher designed tasks and tests
- Work samples
- Self-assessment
- Conferencing
- Portfolio assessment
- Concept mapping
- Questioning

Watch full episodes of **Let's Find Out** on RTÉjr and RTÉ Player.

**Let's Find Out** is made with the support of Science Foundation Ireland.



# Lesson: Marble Race Experiment

## Lesson Introduction

- The teacher will begin the lesson using WALT and WILF.
- Question the children on their prior knowledge of liquids and forces.
- Click [HERE](https://www.youtube.com/watch?v=vm8am9nVSxU&list=PLeR4jkNChuybHYhU-YSs5LW-TuLKz_SQk&index=15) for a whole class demonstration on the experiment on Why are some liquids runny and flow easily and some are thicker and harder to pour? It's all about something called viscosity. ([https://www.youtube.com/watch?v=vm8am9nVSxU&list=PLeR4jkNChuybHYhU-YSs5LW-TuLKz\\_SQk&index=15](https://www.youtube.com/watch?v=vm8am9nVSxU&list=PLeR4jkNChuybHYhU-YSs5LW-TuLKz_SQk&index=15))

## Lesson Development

- Fill each container with each of the liquids, so one will contain water, one oil, one syrup and one honey.
- Drop a marble into the water and get someone to start the stopwatch or timer as you do.
- Record how long it takes for the marble to pass through the liquid and reach the bottom of the glass.
- Now do the same thing for the test-tube containing oil, then the one containing syrup and finally the one containing honey.
- Did you notice that the marble drops at different speeds in each liquid? Which one was the fastest and which one was the slowest?

## Lesson Conclusion

- Talk and Discussion
- Discuss children's observations

Watch full episodes of **Let's Find Out** on RTÉjr and RTÉ Player.

**Let's Find Out** is made with the support of Science Foundation Ireland.

## Lesson: Marble Race Experiment

Resources	Methodologies	Linkage/Integration
<p>Four thin glasses or test-tubes (all the same size)</p> <p>Four marbles (all the same size)</p> <p>A stopwatch or timer</p> <p>Some water, oil (vegetable oil or similar), syrup (such as maple syrup) and honey</p> <p>Paper and pencil to record your results</p>	<p>Talk and Discussion</p> <p>Active Learning</p> <p>Skills through Content</p> <p>Use of the Local Environment</p> <p>Problem Solving</p>	<p>Add in at teacher's discretion</p>

### Inclusion and Diversity/Differentiation (Differentiate at teacher's discretion)

Content:

Activities:

Resources:

Product:

Environment:

Teaching Strategies:

### Scientific Explanation:

The marble passes at different speeds through different liquids, and they have different thicknesses. We call this viscosity. The marble passed quickly through the water, so the water was not very thick or viscous. The oil was a little more viscous than the water, so the marble was a little slower falling through it. The syrup was thicker, or more viscous still and the honey was the most viscous, so the marble took the longest to pass through it.

Watch full episodes of **Let's Find Out** on RTÉjr and RTÉ Player.

**Let's Find Out** is made with the support of Science Foundation Ireland.

